Current Status of All Claims in the Application:

1. (Presently Presented) A stage assembly that moves a device relative to a mounting area, the stage assembly comprising:

a stage that retains the device;

a stage mover assembly connected to the stage, the stage mover assembly moving the stage along a first axis and generating reaction forces; and

a reaction assembly coupled to the stage mover assembly, the reaction assembly including a first reaction subassembly having a first mass that is movable along the first axis, a second reaction subassembly having a second mass that is movable along the first axis, and a connector assembly that connects the reaction subassemblies together, allows for relative movement of the masses with at least one degree of freedom and inhibits relative movement of the masses with at least one degree of freedom.

2. (Original) The stage assembly of claim 1 wherein the stage mover assembly moves the stage with two degrees of freedom, the reaction assembly reduces the reaction forces in the two degrees of freedom that are transferred to the mounting area, and the connector assembly allows for relative movement of the masses with at least two degrees of freedom.

3. (Presently Presented) The stage assembly of claim 2 wherein the stage mover assembly moves the stage along the first axis and along a second axis, the axes being orthogonal to each other, and the connector assembly allows for relative movement of the masses along the first axis and inhibits relative movement of the masses along the second axis.

4. (Original) The stage assembly of claim 3 wherein the reaction assembly adjusts the position of the masses along a third axis relative to the mounting area.

5. (Original) The stage assembly of claim 4 wherein the reaction assembly independently adjusts the position of the masses along the Z axis.

6. (Original) The stage assembly of claim 3 wherein the masses move independently along the first axis and the masses move concurrently along the second axis relative to the mounting area.

7. (Original) The stage assembly of claim 6 wherein when the stage mover assembly moves the stage along the first axis in one direction, at least one of the masses moves along the first axis in an opposite direction.

8. (Original) The stage assembly of claim 7 wherein when the stage mover assembly moves the stage along the second axis in one direction, the masses move concurrently along the second axis in the opposite direction.

9. (Presently Presented) The stage assembly of claim 1 wherein the first reaction subassembly includes a first X guide that guides the movement of the first mass along the first axis and a first Y guide that guides the movement of the first mass and the first X guide along a second axis.

10. (Original) The stage assembly of claim 9 wherein the first reaction subassembly includes a first trim assembly that adjusts the position of the first mass along the first axis and adjusts the position of the first mass and the first X guide along the second axis.

11. (Original) The stage assembly of claim 10 wherein the first trim assembly includes a first X trim mover that adjusts the position of the first mass along the first axis and a Y trim mover that adjusts the position of the first mass and the first X guide along the second axis.

12. (Presently Presented) The stage assembly of claim 1 wherein the reaction assembly independently adjusts the position of the masses along the first axis.

13. (Original) The stage assembly of claim 1 wherein the connector assembly secures the masses together.

14. (Presently Presented) The stage assembly of claim 1 wherein each reaction subassembly includes an X guide that guides the motion of the respective masses along the first axis and wherein the connector assembly secures the X guides together.

15. (Original) The stage assembly of claim 1 wherein the connector assembly includes a pair of spaced apart connectors.

16. (Original) The stage assembly of claim 15 wherein at least one of the connectors includes a bar and a joint.

17. (Original) The stage assembly of claim 1 further comprising a stage base that supports the stage.

18. (Original) The stage assembly of claim 17 further comprising a base isolator that adjusts the position of the stage base relative to the mounting area and the masses.

19. (Original) The stage assembly of claim 17 wherein the stage mover assembly includes a guide bar that guides motion of the stage, the guide bar being supported by the reaction assembly independently of the stage base.

20. (Original) The stage assembly of claim 17 wherein the stage mover assembly includes a guide bar that guides motion of the stage, the guide bar being supported by the stage base.

21. (Original) The stage assembly of claim 17 where the reaction assembly is supported by the stage base.

22. (Original) The stage assembly of claim 17 further comprising a subassembly adjuster that independently adjusts the position of the masses relative to the stage base and the mounting area.

23. (Currently Amended) An exposure apparatus including an irradiation apparatus that is a source of radiation, and the stage assembly of claim 1 that moves the device relative to the irradiation apparatus.

24. (Presently Presented) A process for manufacturing a device including the steps of providing a substrate and transferring an image onto the substrate with the exposure apparatus of claim 23.

25. (Presently Presented) A process for manufacturing a wafer including the steps of providing a substrate and transferring an image onto the substrate with the exposure apparatus of claim 23.

26. (Presently Presented) A method for making a stage assembly that moves a device relative to a mounting area, the method comprising the steps of:

providing a stage that retains the device;

connecting a stage mover assembly to the stage, the stage mover assembly moving the stage along a first axis and generating reaction forces; and

coupling a reaction assembly to the stage mover assembly, the reaction assembly including a first reaction subassembly having a first mass that is movable along the first axis, a second reaction subassembly having a second mass that is movable along the first axis, and a connector assembly that connects the reaction subassemblies together, allows for relative movement of the masses with at least one degree of freedom and inhibits relative movement of the masses with at least one degree of freedom.

27. (Presently Presented) The method of claim 26 wherein the step of connecting a stage mover assembly includes the step of moving the stage with two degrees of freedom with the stage mover assembly and wherein the step of coupling a reaction assembly includes the step of reducing the reaction forces in the two degrees of freedom that are transferred to the mounting area with the reaction assembly.

28. (Presently Presented) The method of claim 27 wherein the step of connecting a stage mover assembly includes the step of moving the stage along the first axis and along a second axis with the stage mover assembly, the axes being orthogonal to each other, and wherein the step of coupling a reaction assembly includes the steps of allowing for relative movement of the masses along the first axis and inhibiting relative movement of the masses along the second axis with the connector assembly.

29. (Presently Presented) The method of claim 28 wherein the step of coupling a reaction assembly includes the step of adjusting the position of the masses along a third axis relative to the mounting area with the reaction assembly.

30. (Presently Presented) The method of claim 29 wherein the step of coupling a reaction assembly includes the step of adjusting the position of the masses along the third axis with the reaction assembly.

31. (Presently Presented) The method of claim 28 wherein the step of coupling a reaction assembly includes the masses moving independently along the first axis and the masses moving concurrently along the second axis relative to the mounting area.

32. (Currently Amended) The method of claim 31 wherein when the step of connecting a stage mover assembly includes the step of moving the stage along the first axis in one direction with the stage mover assembly, and the step of coupling a reaction assembly includes at least one of the masses moving along the first axis in an opposite direction.

33. (Presently Presented) The method of claim 31 wherein when the step of connecting a stage mover assembly includes the step of moving the stage along the second axis in one direction with the stage mover assembly, and the step of coupling a reaction assembly includes the masses moving concurrently along the second axis in the opposite direction.

34. (Presently Presented) The method of claim 26 wherein the step of coupling a reaction assembly includes the steps of guiding the movement of the first mass along the first axis with a first X guide and guiding the movement of the first mass and the first X guide along a second axis with a first Y guide.

35. (Presently Presented) The method of claim 34 wherein the step of coupling a reaction assembly includes the steps of adjusting the position of the first mass along the first axis and adjusting the position of the first mass and the first X guide along the second axis with a first trim assembly.

36. (Presently Presented) The method of claim 35 wherein the step of coupling a reaction assembly includes the steps of adjusting the position of the first mass along the first axis with a first trim mover of the first trim assembly and adjusting the position of the first mass and the first X guide along the second axis with a Y trim mover of the first trim assembly.

37. (Presently Presented) The method of claim 26 wherein the step of coupling a reaction assembly includes the step of independently adjusting the position of the masses along the first axis.

38. (Presently Presented) The method of claim 26 wherein the step of coupling a reaction assembly includes the step of securing the masses together with the connector assembly.

39. (Presently Presented) The method of claim 26 wherein the step of coupling a reaction assembly includes the steps of guiding the motion of the respective masses along the first axis with an X guide and securing the X guides together with the connector assembly.

40. (Presently Presented) The method of claim 26 wherein the step of coupling a reaction assembly includes the connector assembly having a pair of spaced apart connectors.

41. (Presently Presented) The method of claim 40 wherein the step of coupling a reaction assembly includes at least one of the connectors including a bar and a joint.

42. (Presently Presented) The method of claim 26 further comprising the step of providing a stage base that supports the stage.

43. (Presently Presented) The method of claim 42 further comprising the step of providing a base isolator that adjusts the position of the stage base relative to the mounting surface and the masses.

44. (Presently Presented) The method of claim 42 wherein the step of connecting a stage mover assembly includes the step of guiding the motion of the stage with a guide bar, the guide bar being supported by the reaction assembly independently of the stage base.

45. (Presently Presented) The method of claim 42 wherein the step of connecting a stage mover assembly includes the step of guiding the motion of the stage with a guide bar, the guide bar being supported by the stage base.

46. (Presently Presented) The method of claim 42 wherein the step of coupling a reaction assembly includes the step of supporting the reaction assembly with the stage base.

47. (Presently Presented) The method of claim 26 wherein the step of coupling a reaction assembly includes each reaction subassembly including a mass support that allows the masses to move independently along the first axis and allows the masses to move concurrently along the second axis.

48. (Original) A method for making an exposure apparatus that forms an image on a wafer, the method comprising the steps of:

providing an irradiation apparatus that irradiates the wafer with radiation to form the image on the wafer; and

providing the stage assembly made by the method of claim 26.

49. (Presently Presented) A method of making a wafer including the steps of providing a substrate and transferring an image onto the substrate with the exposure apparatus made by the method of claim 48.

50. (Presently Presented) A method of making a device including the steps of providing a substrate and transferring an image onto the substrate with the exposure apparatus made by the method of claim 48.

51. (Presently Presented) A process for manufacturing a device including the steps of providing a substrate and transferring an image onto the substrate with an exposure apparatus that includes a stage assembly that moves the device relative to a mounting area, the stage assembly comprising: a stage that retains the device; a stage mover assembly connected to the stage, the stage mover assembly moving the stage and generating reaction forces; and a reaction assembly coupled to the stage mover assembly, the reaction assembly including a first reaction subassembly having a first mass, a second reaction subassembly having a second mass, and a connector assembly that connects the reaction subassemblies together, allows for relative movement of the masses with at least one degree of freedom and inhibits relative movement of the masses with at least one degree of freedom.

52. (Presently Presented) A process for manufacturing a wafer including the steps of providing a substrate and transferring an image onto the substrate with an exposure apparatus that includes a stage assembly that moves a device relative to a mounting area, the stage assembly comprising: a stage that retains the device; a stage mover assembly connected to the stage, the stage mover assembly moving the stage and generating reaction forces; and a reaction assembly coupled to the stage mover assembly, the reaction assembly including a first reaction subassembly having a first mass, a second reaction subassembly having a second mass, and a connector assembly that connects the reaction subassemblies together, allows for relative movement of the masses with at least one degree of freedom and inhibits relative movement of the masses with at least one degree of freedom.

53. (Presently Presented) A method for making an exposure apparatus that forms an image on a wafer, the method comprising the steps of:

providing an irradiation apparatus that irradiates the wafer with radiation to form the image on the wafer; and

making a stage assembly that moves the wafer relative to a mounting area, the method comprising the steps of: providing a stage that retains the wafer; connecting a stage mover assembly to the stage, the stage mover assembly moving the stage and generating reaction forces; and coupling a reaction assembly to the stage mover assembly, the reaction assembly including a first reaction subassembly having a first mass, a second reaction subassembly having a second mass, and a connector assembly that connects the reaction subassemblies together, allows for relative movement of the masses with at least one degree of freedom and inhibits relative movement of the masses with at least one degree of freedom.

54. (Presently Presented) A method of making a wafer including the steps of providing a substrate and transferring an image onto the substrate with the exposure apparatus made by the method of claim 53.

55. (Presently Presented) A method of making a device including the steps of providing a substrate and transferring an image onto the substrate with the exposure apparatus made by the method of claim 53.